National Institute of Environmental Health Sciences

Self-perceived weather sensitivity and joint pain in older people with osteoarthritis in six European countries: Results from the European Project on OSteoArthritis (EPOSA)

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Abstract:

Background: People with osteoarthritis (OA) frequently report that their joint pain is influenced by weather conditions. This study aimed to examine whether there are differences in perceived joint pain between older people with OA who reported to be weather-sensitive versus those who did not in six European countries with different climates and to identify characteristics of older persons with OA that are most predictive of perceived weather sensitivity. Methods. Baseline data from the European Project on OSteoArthritis (EPOSA) were used. ACR classification criteria were used to determine OA. Participants with OA were asked about their perception of weather as influencing their pain. Using a two-week follow-up pain calendar, average self-reported joint pain was assessed (range: 0 (no pain)-10 (greatest pain intensity)). Linear regression analyses, logistic regression analyses and an independent t-test were used. Analyses were adjusted for several confounders. Results: The majority of participants with OA (67.2%) perceived the weather as affecting their pain. Weather-sensitive participants reported more pain than non-weather-sensitive participants (M Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 4.1, SD Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.4 versus M Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 3.1, SD Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.4; $p < 0.001$). After adjusting for several confounding factors, the association between self-perceived weather sensitivity and joint pain remained present (B Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 0.37, p Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 0.03). Logistic regression analyses revealed that women and more anxious people were more likely to report weather sensitivity. Older people with OA from Southern Europe were more likely to indicate themselves as weather-sensitive persons than those from Northern Europe. Conclusions: Weather (in)stability may have a greater impact on joint structures and pain perception in people from Southern Europe. The results emphasize the importance of considering weather sensitivity in daily life of older people with OA and may help to identify weather-sensitive older people with OA.

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Resource Description

Exposure : ☑

weather or climate related pathway by which climate change affects health

Meteorological Factors, Precipitation, Temperature

Temperature: Extreme Cold, Extreme Heat, Fluctuations

Geographic Feature: ☑

resource focuses on specific type of geography

None or Unspecified

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Europe

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Mental Health/Stress, Other Health Impact

Mental Health Effect/Stress: Mood Disorder

Other Health Impact: osteoarthritis

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Elderly, Low Socioeconomic Status

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified